

**TECHNICAL STATEMENT
RE: CONSTRUCTION PERMIT CERTIFICATIONS
W09DJ-D 0.4 KW-DA 760 M AMSL CH. 9
WILKES-BARRE, ETC., PENNSYLVANIA**

INTRODUCTION

This technical statement was prepared on behalf of Catholic Broadcasting of Scranton, Inc. (the “Applicant”), the licensee of Class A television station W09DJ-D Channel 9 in Wilkes-Barre, Etc., Pennsylvania, Facility ID No. 16962. It provides technical information in support of a construction permit (CP) application that proposes a power increase for W09DJ-D in connection with an enhanced out-of-channel emission mask specification.¹ Aside from these two upgrades, no other changes to the existing facility are specified and thus the CP application is eligible for processing as a minor modification.²

All calculations, elevations and other technical data provided herein have been determined in accordance with the technical standards of the Federal Communications Commission (FCC), unless specifically stated otherwise.

BROADCAST FACILITY MODIFICATION

As stated above, the Applicant is not only seeking a power increase for W09DJ-D, but also an upgrade in the station’s current out-of-channel emission mask specification. Specifically, the Applicant is proposing that W09DJ-D be allowed to increase effective radiated power (ERP) to 0.4 kW based upon the use of a new “full-service” mask filter. The station will continue to operate on Channel 9 using its existing directional antenna system, which is a horizontally polarized custom log-periodic array.³ This antenna system is side mounted at the authorized

¹ W09DJ-D is currently licensed to operate on Channel 9 at 0.024 kW ERP using a stringent mask filter. See FCC File No. 0000113176.

² See 47 CFR § 73.7572(a) – Processing of TV broadcast, Class A TV broadcast, low power TV, TV translators, and TV booster applications.

³ The log-periodic array consists of two Scala CL-713 antennas.



radiation center height of 120 meters above ground level (AGL) or 760 meters above mean sea level (AMSL).

Interference Analysis

A detailed *TVStudy* analysis has been performed and the results indicate no interference check failures were found. A copy of the analysis summary is provided in Figure 1. This summary confirms that a grant of the CP application will not result in any new interference to other prior authorized stations in accordance with the requirements in 47 C.F.R. §§ 74.709, 74.793(e), 74.793(f), 74.793(g) and 74.793(h).⁴ This summary also shows that the following analysis settings were used:

<u><i>TVStudy</i> Analysis Settings</u>	
Study cell size:	1.0 kilometer
Profile point spacing:	1.0 kilometer

International Coordination

The *TVStudy* analysis also found no interference check failures with regard to any Canadian stations or assignments. Furthermore, the pertinent interfering contour of W09DJ-D does not fall within Canadian territory and the location of the station is more than 100 km from the common border. Accordingly, this application does not require referral to the Government of Canada for approval.

ENVIRONMENTAL EFFECT

As indicated before, the Applicant is not proposing to make any physical changes to W09DJ-D’s existing antenna system. Given that the station’s antenna has been side-mounted for many years on an existing FCC registered tower, which has not been increased in size substantially since its construction in 1992, the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply in this case.⁵ With

⁴ *TVStudy* Program - Version 2.2.5 was utilized to evaluate this proposal based on the default Interference Check template normally used for application processing. The following analysis settings were used: cell size = 1.0 km; terrain profile resolution = 1.0 point per kilometer.

⁵ See 47 CFR Part 1, App. B, § III.A. An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless (1) the mounting of the new antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E.; (2) the tower has been determined by the FCC to have an adverse effect on one or more historic



regard to the rules for limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), the Applicant intends to continue operation of its current antenna in full compliance with those guidelines as described in more detail below.

W09DJ-D – Proposed Power Increase

Frequency:	186 - 192 MHz (VHF Channel 9)
Effective Radiated Power:	0.4 kW (H)
Antenna Type:	Scala Model Two CL-713
Antenna Polarization:	Horizontal
Antenna Height:	120 meters AGL
Location coordinates:	41-11-54.2 NL, 75-49-10.7 WL (NAD83)
Site elevation:	640 meters AMSL
FCC ASRN:	1228278, Constructed in 1992

The station’s maximum ground-level exposure contribution has been determined based on the technical parameters listed above and by applying the methodology for predicting RF power density levels for television broadcast antennas described in OET-65.⁶ More specifically, it was determined using OET-65 Equation 9 that the proposed power increase will not result in ground-level exposure greater than 0.96 μW/cm² at points 2 meters above ground (approximate human head height). This is actually a conservative calculation of the “worst-case” power density because Equation 9 does not take into account the vertical radiation pattern of the antenna as indicated below.

$$S = \frac{33.4 ERP}{R^2}$$

Where: S = power density in μW/cm²

ERP = power in watts

R = distance in meters

The maximum exposure limits applicable to stations that operate in the VHF television band, as set forth in 47 CFR § 1.1310 for uncontrolled and controlled situations, are 200

properties; (3) the tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106; or, (4) the tower owner has received written or electronic notification that the FCC is in receipt of a complaint from that the collocation has an adverse effect on one or more historic properties.

⁶ FCC Office of Engineering and Technology, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*, OET Bulletin 65, Edition 97-01 (1997) (OET-65).



$\mu\text{W}/\text{cm}^2$ and $1,000 \mu\text{W}/\text{cm}^2$ respectively. Because the worst-case exposure level determined for the proposed facility is not more than 5 percent of those guidelines and considering the requirements for signage and access control will be implemented as appropriate for compliance with the rule changes adopted in the RF Report and Order, no further showing of compliance with the RF exposure rules is necessary.⁷ For all the reasons stated above, this minor change application has been found to comply with the criteria in 47 CFR § 1.1307(a) and (b) and thus further environmental processing is not required in accordance with 47 CFR § 1.1306.

Respectfully submitted,

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Attachments
Figure 1 – *TVStudy* Analysis Summary

⁷ *Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies*, ET Docket No. 19-226, Resolution of Notice of Inquiry, Second Report and Order, Notice of Proposed Rulemaking, and Memorandum Opinion and Order, 34 FCC Rcd 11687 (2019) (RF Report and Order).

FIGURE 1 Analysis Results Summary TVStudy Version 2.2.5.

Study created: 2023.02.15 17:17:55

Study build station data: LMS TV 2023-02-15

Proposal: W09DJ-D D9 DC APP WILKES-BARRE, ETC., PA

File number: W09DJ-D 400W-DA STD 0ET

Facility ID: 16962

Station data: User record

Record ID: 858

Country: U.S.

Build options:
Protect LPTV records from Class A

Search options:
Non-U.S. records included
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc Status	City, State	File Number	Distance
No	WJUB	D8	DT LIC	NEW BRUNSWICK, NJ	BLANK000040678	127.8 km
No	WXXA-TV	D8	DT LIC	ALBANY, NY	BLANK0000185800	218.1
Yes	WBNG-TV	D8	DT LIC	BINGHAMTON, NY	BLANK0000117137	96.2
No	WGAL	D8	DT LIC	LANGASTER, PA	BLANK0000129691	145.9
No	WEDN	D9	DT LIC	NORWICH, CT	BLANK0000207355	306.8
No	WEDN	D9	DT LIC	NORWICH, CT	BLEDT20090618ACB	306.8
No	WUSA	D9	DT LIC	WASHINGTON, DC	BLANK0000153713	271.9
No	WUUR-TV	D9	DT LIC	MANCHESTER, NH	BLANK0000143119	401.3
No	WUUR-TV	D9	DT APP	MANCHESTER, NH	BLANK0000145084	401.3
No	WNGF-LD	N9z	TX LIC	GOVERNEUR, NY	BLTVL20110318AFA	349.3
No	W09GZ-D	D9	LD LIC	GOVERNEUR, NY	BLANK0000152608	349.3
No	WHAM-TV	D9	DT LIC	ROCHESTER, NY	BLANK0000094853	259.7
No	W09GZ-D	D9	LD LIC	ROSLYN, NY	BLANK0000004283	185.8
No	W09GZ-D	D9	LD CP	ROSLYN, NY	BLANK0000159477	163.1
No	WTOV-TV	D9	DT LIC	STURBEVILLE, OH	BLGDT20111206A08	415.1
Yes	WBPH-TV	D9	DT LIC	BETHLEHEM, PA	BLANK0000207702	77.3
Yes	W09DB-D	D9z	DC LIC	WILLIAMSPORT, PA	BLANK0000001611	95.2
No	WTRH	D10	DT LIC	RUTLAND, VT	BLANK0000079969	352.6
No	DWBPN-LP	N10z	TX APP	NEW HAVEN, CT	BLANK0000160005	240.8
No	WXY-LD	D10	LD LIC	BINGHAMTON, NY	BLTVL20000824ADL	95.9
No	WXY-LD	D10	LD LIC	NEW YORK, NY	BLANK0000063306	165.2
No	WXY-LD	D10	LD CP	NEW YORK, NY	BLANK0000178116	161.8
No	WHCM-TV	D10	DT LIC	ROCHESTER, NY	BMLCDT20111228ABJ	259.8
No	WTHM-TV	D10	DT LIC	HARRISBURG, PA	BLANK0000176940	136.7
No	W10CP-D	D10	LD LIC	TOWANDA, PA	BLDTV20090806AAV	77.0
No	CKVR-DT	D9	DT BL	BARRIE, ON	DTVBL703887	472.1
No	CJ0H-TV-8	D9	DT LIC	CORNWALL, ON	BLANKCANADA169	454.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D9
Mask: Full Service
Latitude: 41 11 54.20 N (NAD83)
Longitude: 75 49 10.70 W
Height AMSL: 760.0 m
HAAT: 0.0 m
Peak ERP: 0.400 kW
Antenna: SCA-Two GL-713 (ID 1006755) 0.0 deg
Elev Pattn: Generic

48.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.363 kW	519.1 m	58.5 km
45.0	0.014	246.0	23.5
90.0	0.000	192.8	9.0
135.0	0.000	249.6	10.7
180.0	0.000	292.3	11.0
225.0	0.000	315.1	8.2
270.0	0.194	497.2	52.5
315.0	0.335	505.1	57.1

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 352 m

Proposal 21.00 dBu contour does not cross Canadian border
Distance to Canadian border: 282.0 km

Distance to Mexican border: 2572.2 km

Conditions at FCC monitoring station: Canandaigua NY
Bearing: 328.4 degrees Distance: 224.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 277.1 degrees Distance: 2469.7 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

----- Below is IX received by proposal W09DJ-D 400W-DA STD 0E -----

Proposal receives 2.40% interference from scenario 1
No IX check failures found.